

## CLAIMS

I/We claim:

- [c1]           1.     A method of controlling the output voltage of a voltage regulator using a transimpedance block as an amplifier or a comparator, comprising:  
                  measuring a voltage representative current of said output;  
                  comparing said voltage representative current to a reference current; and  
                  stopping a charging process of said voltage regulator when said voltage representative current of said output is substantially the same as said reference current.
- [c2]           2.     The method of Claim 1 wherein said reference current is generated by the use of a voltage reference and a voltage to current converter.
- [c3]           3.     The method of Claim 1 wherein said reference current is generated by the use of a voltage reference and said reference resistor.
- [c4]           4.     The method of Claim 1 wherein the measuring of said output further includes the measurement of a current produced by said output through a resistor.
- [c5]           5.     The method of Claim 1 wherein the measuring of said output further includes the measurement of a voltage representative current produced by a resistive divider connected to said output.
- [c6]           6.     The method of Claim 1 wherein said voltage regulator uses a transformer to provide said output.
- [c7]           7.     The method of Claim 1 wherein said voltage regulator uses an inductive booster to provide said output.

[c8] 8. The method of Claim 1 wherein said transimpedance block goes into a high impedance state when in a standby mode.

[c9] 9. A voltage regulator used in conjunction with a transimpedance block, said voltage regulator operative to monitor an output voltage on said output, said voltage regulator comprising:

a transimpedance block having a reference input and a sense input, said sense input connected to said output through a resistor, said transimpedance block indicating that said output voltage is nominal when said sense input and said reference input are in a predetermined relation.

[c10] 10. The voltage regulator of Claim 9 further wherein sense input is connected to said output through said resistor and a diode.

[c11] 11. A voltage regulator used in conjunction with a transimpedance block, said voltage regulator operative to monitor an output voltage, said voltage regulator comprising:

a transimpedance block having a reference input and a sense input, said sense input connected to output through a resistive divider, said transimpedance block indicating that said output voltage is nominal when said sense input and said reference input are in a predetermined relation.